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EXAMINER	
TRUONG, CAM Y T	
ART UNIT	**PAPER NUMBER**
2172	9

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/922,617	JACOBS ET AL.	
	Examin r	Art Unit	
	Cam Y T Truong	2172	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *1-25* MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *16 January 2004*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-27* is/are pending in the application.

4a) Of the above claim(s) *26 and 27* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-25* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. Applicant has amended claims 1, 6, 11, 15, 20, and withdrawn claims 26, 27 in the amendment filed on 1/16/04.

Applicant's arguments with respect to claim 15 has been considered but are moot in view of the new ground(s) of rejection.

Applicant argued that Chamberlain does not teach "automatically invalidate cached data in response to a data request received at the cache". However, Chamberlain teaches that However, Chamberlain teaches that when server 100 receives a URL from a client, the HTTP server 206 passes the URL to the URL parser 303, which breaks the URL into different parts. The parsed URL is passed to the cache control unit 311. The request of URL is examined by the cache control unit 311 and the previously cached responses are analyzed to determine whether any of the cached responses are candidates for serving to the request. A matching URL cached entry is analyzed by the cached-response analyzer 306. Specifically the caching strategy flags, which were stored along with the cached response, are analyzed for applicability and for validity via the validity analyzer 315. The validity analyzer 315 understands the cached response retrieval process and automatically invalidates pages based upon whether the candidate cached response is stale. This information shows that the system automatically invalidates pages at the cache server in response to user request. Since the server 100 contains a cache 340, cache control unit 311, and validity analyzer 315, thus, the server 100 can be called a cache server. The cache server 100 is

represented as the cache system (col. 7, lines 23-26; col. 12, lines 57-67; col. 13, lines 1-5).

Applicant argued that Chamberlain does not teach "automatically invalidate a set of data stored in a cache system without awaiting an invalidation message from a data server". However, Chamberlain teaches that when server 100 receives a URL from a client, the HTTP server 206 passes the URL to the URL parser 303, which breaks the URL into different parts. The parsed URL is passed to the cache control unit 311. The request of URL is examined by the cache control unit 311 and the previously cached responses are analyzed to determine whether any of the cached responses are candidates for serving to the request. A matching URL cached entry is analyzed by the cached-response analyzer 306. Specifically the caching strategy flags, which were stored along with the cached response, are analyzed for applicability and for validity via the validity analyzer 315. The validity analyzer 315 understands the cached response retrieval process and automatically invalidates pages based upon whether the candidate cached response is stale. Since the server 100 contains a cache 340, cache control unit 311, and validity analyzer 315, thus, the server 100 can be called a cache server. This information shows that the system automatically invalidates pages at the cache server in response to user request without awaiting an invalidation communication from the other web server. The cache server 100 is represented as the cache system (col. 7, lines 23-26; col. 12, lines 57-67; col. 13, lines 1-5).

Applicant argued that Chamberlain invalidates the cached set only after the request is processed. However, Chamberlain teaches that when server 100 receives a

URL from a client, the HTTP server 206 passes the URL to the URL parser 303, which breaks the URL into different parts. The parsed URL is passed to the cache control unit 311. The request of URL is examined by the cache control unit 311 and the previously cached responses are analyzed to determine whether any of the cached responses are candidates for serving to the request. A matching URL cached entry is analyzed by the cached-response analyzer 306. Specifically the caching strategy flags, which were stored along with the cached response, are analyzed for applicability and for validity via the validity analyzer 315. The validity analyzer 315 understands the cached response retrieval process and automatically invalidates pages based upon whether the candidate cached response is stale. Since the server 100 contains a cache 340, cache control unit 311, and validity analyzer 315, thus, the server 100 can be called a cache server. This information shows that the system automatically invalidates pages before the change request is processed. The cache server 100 is represented as the cache system (col. 7, lines 23-26; col. 12, lines 57-67; col. 13, lines 1-5).

Applicant argued that Ekanadham does not to notify a server. Ekanadham teaches that there is no automatic coherence as in prior cache systems, where a cache forcefully invalidates or updates other caches whenever shared data is written. In explicit coherence, a processor waits until all other processors have voluntarily released their locks on the shared data by issuing an explicit release command before a write can proceed. A chief consequence of this is that there is no need for forced invalidation, and no need to broadcast or maintain a directory for notifying caches of forced invalidations or updates. The above information shows that the cache system

can invalidate data without involving any server. Thus a server can receives a request after the cache system invalidating data (col. 2, lines 28-36).

For the above reason, examiner believed that rejection of the last office action was proper.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1-4, 6-7, 13, 17-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chamberlain et al (or hereinafter "Chamberlain") (USP 6408360).

As to claim 1, Chamberlain teaches the claimed limitation:

"at the cache system, caching a first data item, received from the data server for service in response to requests to view said first data item" as web pages, which are stored in web server, are accessed over the Internet and downloaded into the volatile cache of a local computer. The volatile cache enables a user to quickly review web pages. The above information shows that the local computer caches web pages after the local computer sends requests and then receives web pages from the web server. A web page is represented as a first data item (col. 1, lines 50- 67; col. 2, lines 1-5);

"receiving at the cache system a change request to alter a data item" as domino web server 100, receives a URL from a client. With a Domino server, within the URL that is received from the requesting user is a Domino/Notes-specific command e.g.,

?Edit Document. The above information shows that the request is an edit request to edit a document. Thus, a URL request from a client is represented as a change request to edit a document. Since the server 100 contains a cache 340, cache control unit 311, thus, the server 100 can be called a cache server. The cache server 100 is represented as the cache system. A change request is represented as a URL request. A URL is represented as a data item (fig. 4, col. 6, line 26, col. 7, lines 23-55).

Chamberlain does not explicitly teach the claimed limitation "and automatically invalidating said first data item at the cache system in response to said change request". However, Chamberlain teaches that when server 100 receives a URL from a client, the HTTP server 206 passes the URL to the URL parser 303, which breaks the URL into different parts. The parsed URL is passed to the cache control unit 311. The request of URL is examined by the cache control unit 311 and the previously cached responses are analyzed to determine whether any of the cached responses are candidates for serving to the request. A matching URL cached entry is analyzed by the cached-response analyzer 306. Specifically the caching strategy flags, which were stored along with the cached response, are analyzed for applicability and for validity via the validity analyzer 315. The validity analyzer 315 understands the cached response retrieval process and automatically invalidates pages based upon whether the candidate cached response is stale. This information shows that the system automatically invalidates pages at the cache server in response to user request. Since the server 100 contains a cache 340, cache control unit 311, and validity analyzer 315, thus, the server 100 can be called a cache server. The cache server 100 is

represented as the cache system (col. 7, lines 23-26; col. 12, lines 57-67; col. 13, lines 1-5).

It would have been obvious to a person of an ordinary skill in the art at the time the invention was made to apply Chamberlain's teaching of receiving a URL request at the server 100 and automatically validating request via the validity analyzer 315 in order to reduce network traffic, to save time for validating data and eliminate another interactions from any devices.

As to claim 2, Chamberlain teaches the claimed limitation "comparing said change request to a set of rules for determining when to automatically invalidate a data item" as if the cache control unit determines that there is an exact match between the parsed URL of the user request and the URLs corresponding to one of the cached responses in the cache 304, the candidate cached response along with its associated cache strategy indicators is passed to the cached response analyzer 306. The response analyzer 306 performs two series of tests. The first series of tests are response-specific and the second series of tests are request-specific. The response-specific tests are performed by the validity analyzer portion 315 while the request-specific tests are performed by the applicability analyzer portion 317. These tests will be discussed in greater detail below. If the candidate cached response and its associated attributes pass the two tests, the candidate cached response is simply served up to the user via the HTTP server 206. This information shows that the system has included rules to test URLs for validating URLs (col. 8, lines 25-40).

As to claim 3, Chamberlain teaches the claimed limitation "said first data item" as the candidate cached response (col. 8, line 29).

As to claim 4, Chamberlain teaches the claimed limitation "identifying a relationship between said data item to be altered and said first data item" as a cached response is identified as stale when its URL is requested by a users and the cache control unit compares the candidate cached response's last modified date against all of the source parts' last modified dates. This information shows that the system identifies relationship between a cached response with requested URL (col. 12, lines 40-45).

As to claims 6 and 18, Chamberlain teaches the claimed limitations:

"caching a first set of data received from a data server" as caching a web page responses to user requests by the web server (col. 2, lines 10-30; col. 1, lines 40-55);

"receiving at the cache system a first request to change a second set of data" as domino web server 100, receives a URL from a client. With a Domino server, within the URL that is received from the requesting user is a Domino/Notes-specific command e.g., ?Edit Document. The above information shows that the request is an edit request to edit a document. Thus, a URL request from a client is represented as a change request to edit a document. Since the server 100 contains a cache 340, cache control unit 311, thus, the server 100 can be called a cache server. The cache server 100 is

represented as the cache system. A change request is represented as a URL request. A URL is represented as a second set of data (fig. 4, col. 6, line 26, col. 7, lines 23-55).

"retrieving from said first request an identifier of said second set of data" as the received URL is parsed, examined for and compared against the cached response URLs. This information shows that the system has to retrieve URLs of the cached response to compare with received URL. Each URL of the cached response is represented as an identifier (col. 12, lines 62-65).

Chamberlain does not explicitly teach the claimed limitation "and automatically invalidating said first set of data in the cache system without awaiting an invalidation communication from the data server". However, Chamberlain teaches that when server 100 receives a URL from a client, the HTTP server 206 passes the URL to the URL parser 303, which breaks the URL into different parts. The parsed URL is passed to the cache control unit 311. The request of URL is examined by the cache control unit 311 and the previously cached responses are analyzed to determine whether any of the cached responses are candidates for serving to the request. A matching URL cached entry is analyzed by the cached-response analyzer 306. Specifically the caching strategy flags, which were stored along with the cached response, are analyzed for applicability and for validity via the validity analyzer 315. The validity analyzer 315 understands the cached response retrieval process and automatically invalidates pages based upon whether the candidate cached response is stale. Since the server 100 contains a cache 340, cache control unit 311, and validity analyzer 315, thus, the server 100 can be called a cache server. This information shows that the system

automatically invalidates pages at the cache server in response to user request without awaiting an invalidation communication from the other data server. The cache server 100 is represented as the cache system (col. 7, lines 23-26; col. 12, lines 57-67; col. 13, lines 1-5).

It would have been obvious to a person of an ordinary skill in the art at the time the invention was made to apply Chamberlain's teaching of receiving a URL request at the server 100 and automatically validating request via the validity analyzer 315 in order to reduce network traffic, to save time for validating data and eliminate another interactions from any devices.

As to claim 7, Chamberlain teaches the claimed limitation "said first set of data" as caching web page responses to user requests by the web server (col. 2, lines 28-29).

As to claims 13 and 19, Chamberlain teaches the claimed limitations:

"caching a first set of data at a caching system for serving in response to a view request" as web pages, which are stored in web server, are accessed over the Internet and downloaded into the volatile cache of a local computer. The volatile cache enables a user to quickly review web pages. The above information shows that the local computer caches web pages after the local computer sends requests and then receives web pages from the web server. A web page is represented as a first data item (col. 1, lines 50- 67; col. 2, lines 1-5), "and wherein said first set of data is received from a data server" as web pages, which are stored in web server, are accessed over

the Internet and downloaded into the volatile cache of a local computer. This information shows the web page is received from the web server. The web page is represented as the first data set (col. 1, lines 50-67; col. 2, lines 1-5);

"receiving at the caching system a change request, wherein said change request comprises a request to change said first set of data" as domino web server 100, receives a URL from a client. With a Domino server, within the URL that is received from the requesting user is a Domino/Notes-specific command e.g., ?Edit Document. The above information shows that the request is an edit request to edit a document. Thus, a URL request from a client is represented as a change request to edit a document. Since the server 100 contains a cache 340, cache control unit 311, thus, the server 100 can be called a cache server. The cache server 100 is represented as the cache system. A change request is represented as a URL request. A URL is represented as a first set of data (fig. 4, col. 6, line 26, col. 7, lines 23-55);

"identifying said first set of data from said change request" as the received URL is parsed, examined for and compared against the cached response URLs. This information shows that the system has to identify URLs of the cached response to compare with received URL (col. 12, lines 62-65).

Chamberlain does not explicitly teach the claimed limitation "and automatically invalidating said cached first set of data without waiting for the data server to implement said change request". However, Chamberlain teaches that when server 100 receives a URL from a client, the HTTP server 206 passes the URL to the URL parser 303, which breaks the URL into different parts. The parsed URL is passed to the cache control unit

311. The request of URL is examined by the cache control unit 311 and the previously cached responses are analyzed to determine whether any of the cached responses are candidates for serving to the request. A matching URL cached entry is analyzed by the cached-response analyzer 306. Specifically the caching strategy flags, which were stored along with the cached response, are analyzed for applicability and for validity via the validity analyzer 315. The validity analyzer 315 understands the cached response retrieval process and automatically invalidates pages based upon whether the candidate cached response is stale. Since the server 100 contains a cache 340, cache control unit 311, and validity analyzer 315, thus, the server 100 can be called a cache server. This information shows that the system automatically invalidates pages at the cache server in response to user request without awaiting an invalidation communication from the other data server. The cache server 100 is represented as the cache system (col. 7, lines 23-26; col. 12, lines 57-67; col. 13, lines 1-5).

It would have been obvious to a person of an ordinary skill in the art at the time the invention was made to apply Chamberlain's teaching of receiving a URL request at the server 100 and automatically validating request via the validity analyzer 315 in order to reduce network traffic, to save time for validating data and eliminate another interactions of other devices.

As to claim 17, Chamberlain teaches the claimed limitation " a predetermined sequence of communications matching a predetermined pattern" as after receiving a requested URL at server, the requested URL is passed to the cache control unit. A

request is made to the response builder to build a new response based upon the requested URL. This information shows that request includes a predetermined sequence of communications. The built a new response is presented as a pattern (col. 12, lines 57-60; col. 13, lines 14, lines 15-20).

4. Claims 5 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chamberlain in view of Bourne et al (or hereinafter "Bourne") (USP 6584548).

As to claim 5, Chamberlain discloses the claimed limitation subject matter in claim 1, except the claimed limitation "multiple caches and said receiving occurs at a first of the multiple caches, the method further comprising: sending a notification of said automatic invalidation from the first cache of the multiple caches to a second cache of the multiple caches". However, Bourne teaches upon receiving notification that a fragment 's time limit has expired, cache coordinator will send a call to the caches to indicate that the fragment is no longer valid. In this example, cache coordinate sends an invalidate message to fragment cache. Since the cache coordinator sends a invalidate message without involving any user actions, thus, this sent invalidate message is an automatic invalidate message from the cache coordinate to fragment cache This information shows that the caches receives an automatic invalidate message from cache coordinator (col. 18, lines 4-11).

It would have been obvious to a person of an ordinary skill in the art at the time the invention was made to apply Challenger's teaching of upon receiving notification that a fragment 's time limit has expired, cache coordinator will send a call to the caches

to indicate that the fragment is no longer valid to Chamberlain's system in order to maintain data on caches fast without involving any interaction from other server.

As to claim 12, Chamberlain discloses the claimed limitation subject matter in claim 6, except the claimed limitation "multiple caches and: wherein said caching comprises caching said first set of data at a first cache of the multiple caches; and wherein said automatically invalidating is performed at a second cache other multiple caches; the method further comprising notifying the first cache, by the second cache, of said automatic invalidation". However, Bourne teaches upon receiving notification that a fragment 's time limit has expired, cache coordinator will send a call to the caches to indicate that the fragment is no longer valid. In this example, cache coordinate sends an invalidate message to fragment cache. Since the cache coordinator send a invalidate message without involving any user actions, thus, this sent invalidate message is an automatic invalidate message from the cache coordinator to fragment cache This information shows that the caches receives an automatic invalidate message from cache coordinator (col. 18, lines 4-11).

It would have been obvious to a person of an ordinary skill in the art at the time the invention was made to apply Bourne's teaching of upon receiving notification that a fragment 's time limit has expired, cache coordinator will send a call to the caches to indicate that the fragment is no longer valid to Chamberlain's system in order to search/retrieve previous data on caches quickly.

5. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Chamberlain in view of Rackson et al (or hereinafter "Rackson") (USP 6415270).

As to claim 15, Chamberlain teaches the claimed limitation" wherein said first set of data comprises a first user's bid on an item being auctioned in an electronic auction, and wherein said change request comprises a second user's bid on said item". Rackson teaches user's bids on items (figs. 7-8).

It would have been obvious to a person of an ordinary skill in the art at the time the invention was made to apply Rachson's teaching of user's bids on items to Chamberlain's system in order to allow a user to buy any item with good deal on Internet system and to achieve an optimal result.

6. Claims 8-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chamberlain in view of Challenger et al (or hereinafter "Challenger") (USP 6026413).

As to claim 8, Chamberlain discloses the claimed limitation subject matter in claim 6, except the claimed limitation "wherein said second set of data is a later Version of said first set of data". However, Challenger teaches the cache manager then invalidates all cached objects, which depend on the underlying data being updated. Version number allows the object manager to uniquely identify different versions of the same object. This information shows that the system has stored a first version of the object and second version of the same object. The second version of the object is represented as the later version of first version set of data (col. 16, lines 57-58; col. 9, lines 5-6).

It would have been obvious to a person of an ordinary skill in the art to apply Challenger's teaching of invalidating all cached objects. Each object has different versions to Chamberlain's system in order to determine how different an obsolete version of an object is from the current version.

As to claim 9, Chamberlain discloses the claimed limitation subject matter in claim 6, except the claimed limitation "identifying a relationship between said second set of data and said first set of data". However, Challenger teaches version number allows the object manager to uniquely identify different versions of the same object. This information shows that there is a relationship between first version and second version of the same object (col. 16, lines 57-58).

It would have been obvious to a person of an ordinary skill in the art to apply Challenger's teaching of different versions of the same objects to Chamberlain's system in order to determine how different an obsolete version of an object is from the current version.

As to claim 10, Chamberlain teaches the claimed limitation "comparing a pattern of said first request to a first rule for determining when to automatically invalidate a set of data" as if the cache control unit determines that there is an exact match between the parsed URL of the user request and the URLs corresponding to one of the cached responses in the cache 304, the candidate cached response along with its associated cache strategy indicators is passed to the cached response analyzer 306. The

response analyzer 306 performs two series of tests. The first series of tests are response-specific and the second series of tests are request-specific. The response-specific tests are performed by the validity analyzer portion 315 while the request-specific tests are performed by the applicability analyzer portion 317. These tests will be discussed in greater detail below. If the candidate cached response and its associated attributes pass the two tests, the candidate cached response is simply served up to the user via the HTTP server 206. This information shows that the system has included rules to test URLs for validating URLs. A URL corresponding to one of the cached responses is represented as a pattern (col. 8, lines 25-40).

As to claim 11, Chamberlain teaches the claimed limitation "a first pattern for identifying a request in response to which a set of data may be validated, and further comprises a second pattern, different from said first pattern, to identify said set of data to be automatically invalidated" as Editdocument –command for editing a document is represented as a first pattern for identify request (col. 7, lines 30-50). Data, forms, subforms are represented as a second pattern to identify said set of data (col. 7, lines 55-65).

7. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Chamberlain in view of Ekanadham et al (or hereinafter "Ekanadham") (USP 5802582).

As to claim 14, Chamberlain discloses the claimed limitation subject matter in claim 6, except the claimed limitation " wherein said data server is notified of said

change request only after said automatic invalidation of said cached first set of data". Ekanadham teaches that there is no automatic coherence as in prior cache systems, where a cache forcefully invalidates or updates other caches whenever shared data is written. In explicit coherence, a processor waits until all other processors have voluntarily released their locks on the shared data by issuing an explicit release command before a write can proceed. A chief consequence of this is that there is no need for forced invalidation, and no need to broadcast or maintain a directory for notifying caches of forced invalidations or updates. The above information shows that the cache system can invalidate data without involving any server. Thus a server can receives a request after the cache system invalidating data (col. 2, lines 28-36).

It would have been obvious to a person of an ordinary skill in the art at the time the invention was made to apply Ekanadham's teaching of there is no automatic coherence as in prior cache systems, where a cache forcefully invalidates or updates other caches whenever shared data is written, no need for forced invalidation, and no need to broadcast or maintain a directory for notifying caches of forced invalidations or updates to Chamberlain's system in order to maintain or improve cache coherence in a shared memory multiprocessor system and save time for validating data.

8. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Chamberlain in view of Cheng et al (or hereinafter "Cheng") (USP 6151643).

As to claim 16, Chamberlain teaches the claimed limitation "wherein said first set of data comprises information concerning one or more products at a publicly accessible

network location" as a user can access files which can be in different formats such as text, graphics, images, and video via Internet (col. 1, lines 40-50). Chamberlain does not explicitly teach the claimed limitation "wherein said change request comprises a change to said list of products". However, Cheng teaches the user requests update all installed products (fig. 5, col. 11, lines 10-15)

It would have been obvious to a person of an ordinary skill in the art at the time the invention was made to apply Change's teaching of updating all installed products based on user's request to Chamberlain's system in order to provide new products to a user.

9. Claims 20-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chamberlain in view of Ekanadham et al (or hereinafter "Ekanadham") (USP 5802582).

As to claim 20, Chamberlain teaches the claimed limitations:

"a first cache configured to cache data received from a data server" as downloading web pages into volatile cache which enables a user to quickly review webpages that were already downloaded. These web pages are stored in a web server. A stored web page in cache is represented as cache data (col. 1, lines 53-65),

"wherein the data server is coupled to the cache system via a network link" as (col. 1, lines 30-65; col. 2, lines 1-5);

"a data service module configured to serve a first set of cached data in response to a first data view request from a client" as downloading web pages into volatile cache, which enables a user to quickly review webpages that were already

downloaded. These web pages are stored in a web server (col. 1, lines 53-65). This information shows that the system should include a data service module to allow a user access web pages on volatile cache. A stored web page in cache is represented as cache data;

"an invalidation module configured to automatically invalidate said first set of cached data when a first data change request is received from a client" as validity analyzer is used to automatically invalidate pages based upon whether the candidate response is stale after receiving requested URL of the user. With a Domino server, within the URL that is received from the requesting user is a Domino/Notes-specific command e.g., ?Edit Document which is examined at the cache control unit 311. This information shows that the cache control unit can receives an edit request to edit a document. The cache server is represented as the cache system. A change request is represented as a URL request. A URL is represented as a data item (fig. 4, col. 7, lines 23-48).

Chamberlain does not explicitly teach the claimed limitation "wherein said automatic invalidation is performed at the cache system before the data server is notified of said first data change request". However, Chamberlain teaches that when server 100 receives a URL from a client, the HTTP server 206 passes the URL to the URL parser 303, which breaks the URL into different parts. The parsed URL is passed to the cache control unit 311. The request of URL is examined by the cache control unit 311 and the previously cached responses are analyzed to determine whether any of the cached responses are candidates for serving to the request. A matching URL cached

entry is analyzed by the cached-response analyzer 306. Specifically the caching strategy flags, which were stored along with the cached response, are analyzed for applicability and for validity via the validity analyzer 315. The validity analyzer 315 understands the cached response retrieval process and automatically invalidates pages based upon whether the candidate cached response is stale. Since the server 100 contains a cache 340, cache control unit 311, and validity analyzer 315, thus, the server100 can be called a cache server. Ekanadham teaches that there is no automatic coherence as in prior cache systems, where a cache forcefully invalidates or updates other caches whenever shared data is written. In explicit coherence, a processor waits until all other processors have voluntarily released their locks on the shared data by issuing an explicit release command before a write can proceed. A chief consequence of this is that there is no need for forced invalidation, and no need to broadcast or maintain a directory for notifying caches of forced invalidations or updates. The above information shows that the cache system can invalidate data without involving any server. Thus a server can receives a request after the cache system invalidating data (col. 2, lines 28-36).

It would have been obvious to a person of an ordinary skill in the art at the time the invention was made to apply Ekanadham's teaching of there is no automatic coherence as in prior cache systems, where a cache forcefully invalidates or updates other caches whenever shared data is written, no need for forced invalidation, and no need to broadcast or maintain a directory for notifying caches of forced

invalidations or updates to Chamberlain's system in order to maintain or improve cache coherence in a shared memory multiprocessor system and save time for validating data.

As to claim 21, Chamberlain teaches the claimed limitation "said invalidation module" as validity analyzer (fig. 4).

As to claim 22, Chamberlain teaches the claimed limitation "a set of rules for determining when said first set of cached data is to be automatically invalidated in response to a data change request" as if the cache control unit determines that there is an exact match between the parsed URL of the user request and the URLs corresponding to one of the cached responses in the cache 304, the candidate cached response along with its associated cache strategy indicators is passed to the cached response analyzer 306. The response analyzer 306 performs two series of tests. The first series of tests are response-specific and the second series of tests are request-specific. The response-specific tests are performed by the validity analyzer portion 315 while the request-specific tests are performed by the applicability analyzer portion 317. These tests will be discussed in greater detail below. If the candidate cached response and its associated attributes pass the two tests, the candidate cached response is simply served up to the user via the HTTP server 206. This information shows that the system has included rules to test URLs for validating URLs. A URL corresponding to one of the cached responses is represented as a pattern (col. 8, lines 25-40).

As to claim 23, Chamberlain discloses the claimed limitation "a user interface configured to facilitate the creation of one of said rules" as the $CacheValid field lets the designer to tell the cache that this response should be considered valid for a certain number of seconds regardless of what the caching strategy generator determines the cache strategy to be. Consider a simple home page that is being continually edited. The caching strategy generator would normally give this page the "Document" strategy, i.e., the Document strategy flag would be set, so that the cache entry would become invalid each time the page is edited. For example, if the homepage designer considered it acceptable that the home page not be continually updated for every request as a tradeoff for performance, the designer would then communicate this by creating a $CacheValid field on the response with a value of N. If the designer considered it acceptable for the page to remain fresh for requests for, at a minimum, 3 minutes after the response was cached, the designer would set N=180. This would cause the results of the page to be considered valid for at least 180 seconds. After that time, the normal validity checks will take place (col. 13, lines 25-45). This information shows that the system has included a interface to allow a designer to create rule such as $cacheValid.

As to claim 24, Chamberlain discloses the claimed limitation "wherein said first data change request comprises a predetermined sequence of communications" as to access a page on a cache server, the user has to log on the system and then enter a

URL for accessing. This information shows that the request includes a sequence of communications (col. 11, lines 40-45; col. 7, lines 23-25)

10. Claim 25 is rejected under 35 U.S.C. 103(a) as being unpatentable over Chamberlain in view of Ekanadham and further in view of Bourne.

As to claim 25, Chamberlain discloses the claimed limitation subject matter in claim 20, except the claimed limitation "a second cache; wherein said second cache is notified by said first cache of said automatic invalidation". However, Bourne teaches upon receiving notification that a fragment 's time limit has expired, cache coordinator will send a call to the caches to indicate that the fragment is no longer valid. In this example, cache coordinate sends an invalidate message to fragment cache. Since the cache coordinator send a invalidate message without involving any user actions, thus, this sent invalidate message is an automatic invalidate message from the cache coordinator to fragment cache This information shows that the caches receives an automatic invalidate message from cache coordinator (col. 18, lines 4-11).

It would have been obvious to a person of an ordinary skill in the art at the time the invention was made to apply Challenger's teaching of upon receiving notification that a fragment 's time limit has expired, cache coordinator will send a call to the caches to indicate that the fragment is no longer valid to Chamberlain's system in order to maintain data on caches fast.

Conclusion

11. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Contact Information

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cam-Y Truong whose telephone number is (703-605-1169). The examiner can normally be reached on Mon-Fri from 8:00AM to 4:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Breene, can be reached on (703-305-9790). The fax phone numbers for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703-305-3900).

Cam-Y Truong

3/31/04

SHAHID ALAM
PRIMARY EXAMINER